Skill Development through Vocational Courses in Higher Education Sector: A Study of Selected Universities of Uttar Pradesh, India

SYNOPSIS

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MS. PRAGYA CHAUHAN

Under the supervision of

PROF. AKSHAY KUMAR SATSANGI
(Supervisor)

And

DR. ARVIND KUMAR
(Co-Supervisor)

DEPARTMENT OF MANAGEMENT, FACULTY OF SOCIAL SCIENCES
DAYALBAGH EDUCATIONAL INSTITUTE (DEEMED TO BE UNIVERSITY)
DAYALBAGH, AGRA - 282005

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"The brain must be educated through the hand. The teacher must learn the craft and correlate his knowledge to the craft. The craft cannot be separated from education."

- Mahatma Gandhi[1]

INTRODUCTION

After India's independence, the initial focus was on establishing a formal Technical and Vocational Education and Training (TVET) sector, with dedicated technical and vocational institutions. The beginning of the current era of vocational education and skill training in India was marked by the setting up of the first Industrial Training Institute (ITI) in 1969 by the Ministry of Labour and Employment, Government of India. To continue the growth of higher-level skill, the All-India Council of Technical Education (AICTE) Act, 1987 became the official regulator and founder for polytechnics and technical colleges. This led to a paradigm shift in 2009 by establishing the National Skill Development Corporation (NSDC) and also by framing the first National Skill Development Policy with the vision for a National Skills Qualification framework (NSQF) and the creation of a unified competence-based training system.

The creation of the new Ministry of Skill Development and Entrepreneurship (MSDE) in 2014 has provided an important unifying force in the sector. This is represented by the implementation of the National Skills Qualification Framework (NSQF) across skill programs that deliver in school and higher education sectors. In 2015, the Skill India initiative was launched with an aim to train over 400 million people in different skills by 2022. Initiatives under Skill India include the National Skill Development Mission (NSDM) and National Policy for Skill Development and Entrepreneurship (NPSDE) 2015. The objectives of these initiatives were new certification and assessment systems and improving the quality and standardization of training while continuing to increase capacity. Recently, the union government announced that students graduating from Industrial Training Institutes (ITI) in India will be considered to be at par with students graduating class XII, bringing a long pending equivalence in the formal and vocational streams of education in the country.[2]

SKILL DEVELOPMENT

Skill Development refers to the development of work-related skills or competencies through vocational education and training. Skill development is an important driver to address poverty reduction by improving

employability and productivity along with helping sustainable enterprise development and inclusive growth.[3]

METHODS OF SKILL DEVELOPMENT IN INDIA

- **Pradhan Mantri Kaushal Vikas Yojana -** Pradhan Mantri Kaushal Vikas Yojana (PMKVY) is the flagship scheme of the Ministry of Skill Development & Entrepreneurship (MSDE) implemented by National Skill Development Corporation (NSDC). The objective of this skill certification scheme is to enable a large number of Indian youths to take up industry-relevant skill training that will help them in securing a better livelihood. Individuals with prior learning experience or skills will also be assessed and certified under Recognition of Prior Learning (RPL).
- **Skills Acquisition and Knowledge Awareness for Livelihood Promotion (SANKALP)** - A program of the Ministry of Skill Development with loan assistance from the World Bank. It aims to improve short term skill training qualitatively and quantitatively through strengthening institutions, bringing in better market connectivity and including marginalized sections of the society.
- **Udaan -** The udaan scheme, a Special Industry Initiative (SII) for the state of Jammu and Kashmir (J&K) is funded by the Ministry of Home Affairs and implemented by National Skill Development Corporation (NSDC). The aim of the Udaan scheme is capacity building of the youth in J&K through skill development and subsequently exposing them to the best of corporates in India. The initiative also aims at providing the corporate sector in India an access to the rich talent pool in J&K.
- **Standard Training Assessment and Reward Scheme (STAR) -** Standard Training Assessment & Reward (STAR) scheme is to encourage skill development among the youth. The scheme will provide monetary incentives for successful completion of market-driven skill training upto approximately Rs.10 lakh for youth in a span of one year from the date of implementation of the scheme.
- **Polytechnic Schemes -** These schemes envisage providing non-formal, short term, employment-oriented skill development programs through All India Council for Technical Education (AICTE) approved polytechnics, to various sections of the community, particularly the rural, unorganized & disadvantaged sections of the society in order to enable them to obtain gainful self / wage employment.

- **Vocationalization of Education** - The centrally sponsored scheme of vocationalization of secondary education provides for diversification of educational opportunities so as to enhance individual employability, reduce the mismatch between demand and supply of skilled manpower and provides an alternative for those pursuing higher education.[4]

VOCATIONAL EDUCATION

'Vocational education' has always been a priority in the educational scenario of India. The foremost strategy for the eradication of poverty is to give work to the hands which is possible only when young men and women are helped to develop employable skills and competencies through vocational education.[5] It is a job oriented technical training course for students and aspirants to settle on a selected career opportunity. This job specific education targeted for a specified career and focuses mainly on providing students with hands-on training, instruction and classes through which a student can gain a diploma or a certificate.[6] In India, only 5-7% of the workforce is vocationally qualified in comparison to other developed countries for which the figure is 90%.[7]

Vocational course is an educational discipline that helps an individual to acquire skills that are required for a particular trade, occupation or vocation. These courses are designed for applications-based studies where theoretical aspects are not taught independently. These courses provide students with industry-specific skills to find a good job in a particular domain. Examples of vocational courses are automobile, mechanic, food technician, electrician, carpenter, photographer, software developer. In higher education sector, vocational courses are taught across four levels – certification, diploma, graduation and post- graduation.[8]

HIGHER EDUCATION SECTOR IN INDIA

In developing countries like India, higher education occupies an important place in the nation building process and in economic development.[9] At the time of independence in 1947, India had only 20 universities and 500 colleges located in different parts of the country. They enrolled approximately one person per thousand of population in higher education. Participation of women was limited and those who graduated annually were few in number.[10] The Government of India took upon itself the responsibility of expansion and growth. The Indian higher education system expanded at a fast pace by adding nearly 20,000 colleges

and more than 8 million students in a decade from 2000–01 to 2010–11.[11] As of 2021, India had over 1003 universities with a break up as follows- 54 central universities, 436 state universities, 125 deemed universities, 388 private universities. As of 2020, there were 159 institutes of national importance which include All India Institute of Medical Sciences (AIIMS), Indian Institutes of Management (IIMs), Indian Institutes of Information Technology (IIITs), Indian Institutes of Science Education and Research (IISERs), Indian Institutes of Technology (IITs) and National Institutes of Technology (NITs) among others. Other institutions include 52,627 colleges as government degree colleges, private colleges, stand-alone institutes and post-graduate research institutions, functioning under these universities as reported by the Ministry of Human Resource Development (MHRD) in 2020.[12]

Uttar Pradesh has 75 universities, the second-highest in all Indian states and territories.[13] It comprises of 6 central universities, 32 state universities, 8 deemed universities, 29 private universities and 13 institutes of national importance.[14]

PROFILE OF SELECTED UNIVERSITIES

The researcher proposes to select all the top universities which offer vocational courses in Uttar Pradesh on the basis of National Institute of Ranking Framework (NIRF) university ranking by the Ministry of Human Resource and Development (MHRD) from the list of 100 universities of three consecutive years 2018, 2019, 2020[15] and also on the basis of National Assessment and Accreditation Council (NAAC) grade.[16]

Table 1 Profile of Selected Universities

University	NIRF 2018	NIRF 2019	NIRF 2020	NAAC
Banaras Hindu University, Varanasi	3	3	3	A
Aligarh Muslim University, Aligarh	10	11	17	A
Amity University, Noida	53	58	37	A+
Dayalbagh Educational Institute, Agra	63	77	82	A+

1. Banaras Hindu University, Varanasi

Banaras Hindu University (BHU) is a central university located at Varanasi. Banaras Hindu University was established under the Parliamentary Legislation - B.H.U Act, 1915. It was founded by the great nationalist

leader, Pandit Madan Mohan Malviya in 1916. The National Institutional Ranking Framework (NIRF) ranked it 3rd in the university ranking for 2020. The university is recognized by the University Grants Commission (UGC) and accredited by the National Accreditation and Assessment Council (NAAC) with grade 'A'. They provide six Bachelor of Vocation (B.Voc.) courses. These courses include Retail and Logistics Management (RLM), Hospitality & Tourism Management (HTM), Fashion Designing & Event Management (FD), Modern Office Management (MOM), Food Processing & Management (FPM) and Medical Lab and Technology (MLT). There are around 1,116 students in these courses.[17]

2. Aligarh Muslim University, Aligarh

Aligarh Muslim University (AMU) is a central university located in Aligarh. It was enacted in the year 1920 by the imperial legislation. The Act was amended in 1951 in order to do away with the Islamic teachings. It was founded by Sir Syed Ahmad Khan as the Muhammadan Anglo-Oriental College in 1875. The NIRF ranked it 17th in the university ranking for 2020. The university is recognized by the UGC and accredited by the NAAC with grade 'A'. They provide three B.Voc. courses. These courses include Production Technology, Polymer and Coating Technology and Fashion and Garment Technology. There are around 450 students in these courses.[18]

3. Amity University, Noida

Amity University is a private research university located in Noida. It was established in 2005 by an Act of the State Legislature of Uttar Pradesh. It was founded by Mr. Ashok Chauhan. The NIRF ranked it 37th in the university ranking for 2020. Amity University, Noida has been accredited by the NAAC with grade 'A+'. They provide four B.Voc. courses. These courses include Building Construction Technology, Power Distribution Management, Refrigeration and Airconditioning and Software Development. There are around 480 students in these courses.[19]

4. Dayalbagh Educational Institute, Agra

Dayalbagh Educational Institute (DEI) is deemed university located in Agra. The institute was given ‘Deemed to be University’ status by the Government of India (GOI) in 1981. It was founded by the ex-vice chancellor of Lucknow University, Rev. Prof. M. B. Lal Sahab, the seventh spiritual leader of the

Radhasoami Faith, Dayalbagh, Agra. The NIRF ranked it 82nd in the university ranking for 2020. The university is recognized by the University Grants Commission (UGC) and accredited by the NAAC with grade 'A+'. They provide 21 B.Voc. courses. These courses include Dairy Technology, Renewable Energy, Textile, Automobile, Food Processing, Apparel Design, Agriculture Technology, Internet of Things (IoT), Water, Sanitation and Waste Management, Bamboo & Wood Technology, Recycled Craft Design, Telecommunications, Commercial Art, Telematics, Greenhouse Technology, Robotics, Digital Marketing, Accounting and Taxation, Ceramic and Pottery Designs, Banking and Finance, Tourism and Hospitality Management. There are around 3,450 students in these courses. [20]

REVIEW OF LITERATURE

The researcher has reviewed research papers, articles, journals and websites on the basis of important aspects of skill development and vocational courses. Thereafter, relevant literature was broadly categorized as national and international reviews as follows:

National Studies

- Indrajit Bairagya, Tulika Bhattacharya and Pragati Tiwari (2021) in their work "Does Vocational Training Promote Female Labour Force Participation? An Analysis for India" stated that the percentage of formal vocational training holders is much lower than the share of informal vocational training holders and also it varies across males and females which indicate the continued presence of a gender gap in vocational training participation and the need for special policy attention on promoting female participation in vocational training. Through this paper it was also identified that socio-economic variables like educational levels, age, location, household size also influences female participation in formal and informal vocational training.[21]
- Muthuveeran Ramasamy (2020) in his study "Competency-Based Curriculum Development in Vocational Education and Training: An Example of Knowledge Transfer from the Western World to India" revealed the transference of the competency-based approach in vocational education and training (VET) from western countries to India with particular focus on addressing the people's needs for vocational training in rural regions. Through this paper he described the piloted competency-based

curriculum design and its dimensions for the sewing vocation in the field by adapting a demand-driven approach to meet the needs of learners.[22]

- Satinder Singh, Jajati K. Parida and I. C. Awasthi (2020) in their work "Employability and Earning Differentials among Technically and Vocationally Trained Youth in India" examined the employability and earning/wage differentials among vocationally and technically trained youth and explored its determinants in India. They found that the number of vocationally and technically trained youth increased during the last decade, but their work force participation had declined substantially. This paper also concluded that the job market distress is being reflected by the large share of employment of trained youth in agriculture and allied sectors or in the low paid and informal service sectors and lack of employment opportunities in industries.[23]
- Sandeep Berwal and Poonam Punia (2019) in their study "Skill Development Initiatives, Vocational Education: An Analysis of Skill Development Initiatives in Haryana" observed that vocational courses programmes need committed and sincere efforts on the part of government coupled with intelligent policy framing to overcome the challenges. This study revealed a few challenges. The first most critical challenge is to change the mindset of a common man in favour of vocational education. The second challenge is to replace the outdated curricula and machinery to align it with the demands of the industry and self-employment opportunities. The third challenge is setting up the database to fill an accurate analysis of the skills gap.[24]
- Maroof Maqbool and Mahmood Ahmad Khan (2019) in their study "Skill Development Programmes in India -A Literature Review" analyzed the existing literature for the skill development programmes and leveraging the demographic proportion in India by making them more skilled and employable. Researchers also reviewed the various initiatives taken by the Government of India, ways to increase the employability skills, programmes conducted through public and private partnership, challenges faced for the success of the programme. They analyzed the various skills that imparted through educational programmes and requirement of additional sector specific courses and further highlighted the needs, challenges and scope of the skill development programmes.[25]

- Rishi Kumar, Shravanth Mandava and Venkata Sandeep Gopanapall (2019) in their work "Vocational Training in India: Determinants of Participation and Effect on Wages" stated that the formal vocational training is associated with higher wages with the effect being the highest in the primary sector. Being male and urban dweller improved the odds of participating in formal vocational training. They also analyzed that good economic returns are associated with formal vocational training which further makes sense to invest resources in vocational training.[26]
- Dr. Rajni Arora and Manoj Chhadwani (2018) conducted the research on "Analyzing the Impact of Skill India as a Tool for Reshaping Indian Economy" and examined the impact of skill India in reshaping Indian economy and also pointed out the necessity of skill India campaign. This research also emphasized on the need to strengthen the economy which further can be achieved by focusing on current educational mechanism, academic skills and generating employable skills among the students.[27]
- Rafat Fatima and Prof. Archana Singh (2018) in their research "Vocational Education and Training: A Prospective Source of Employment Generation" found that in the current scenario India is moving towards capital intensive production instead of traditional labour-intensive production. Researchers also found that for improvement in the labour forces, skill development is required which can be done by proper vocational education and training. The study concluded that vocational education and training has a 9% impact on employment generation in India.[28]
- Santosh Mehrotra and Vinay Swarup Mehrotra (2017) in their work "Challenges Beyond Schooling: Innovative Models for Youth Skills Development in India" analyzed the measures taken by the government to improve the articulation of vocational education with higher education thus changing the 'dead end' image of vocational education. The transition from school to work is the main policy focus, especially in relation to the vocational education and training (VET) reforms. Through this paper it was found that radical change is taking place under the National Skills Qualification Framework as it has encouraged private sector participation in skill development and provide skill development opportunities to youth, allowing a smooth transition to the world of work. Researcher also concluded innovative models and schemes to meet the needs of the youth for twenty-first-century skills.[29]

- Tauffiqu Ahamad, Ambalika Sinha and Rajesh Kumar Shastri (2016) in their study "Women Empowerment through Skills Development and Vocational Education" analyzed that in spite of the huge task ahead with many intrinsic in skill development landscape in India at present; Government of India has been giving adequate attention on skilling the women as per world standards. This paper also revealed that separate ministry for Skill Development and Entrepreneurship schemes clearly gave the priority for skill development in India among women.[30]
- Tutan Ahmed (2016) in his work on "Socio - Economic Impact of Vocational Education and Training (VET): Are Students Interested in Joining Vocational Education and Training in India – In the Context of Skilling Mission in India" and discussed about the social desirability of vocational education and training (VET) in India. Researcher also stated that vocational education and training (VET) is intricately related with higher education and as far as participation in formal vocational education and training (VET) is concerned, the connection between vocational education and training (VET) and higher education is quite strong.[31]
- Tushar Agrawal (2013) in his study "Skill Development in India: An Examination" and emphasized the current status and labour market outcomes of vocational education and training (VET) holders in India by using two rounds of the large scale nationally representative survey. Through this paper he determined that the proportion of vocational education and training (VET) holders in the country has declined between years 2004 and 2009 despite the fact that the government placed a lot of emphasis on vocational education and training (VET) in the past few years.[32]
- Aya Okada (2012) in her study on "Skills Development for Youth in India: Challenges and Opportunities" identified various recent initiatives to facilitate young people's transition to the world of work. Through this study she found out that India is facing very complicated and tremendous challenges in bringing up the skills development for youths. This paper has explained an existing skills gap in India between what industries demand based on recent rapid economic growth and the skills that young people acquire through vocational training. Researcher also suggested that India must raise its investment in education and training for youth which help to promote industrial development and achieve sustainable

growth.[33]

- Prof. Rajkumar Jaiswal (2007) in his study "Vocational Education and Skill Development in India" suggested that there is an urgent need for restructuring of courses of vocational education and training (VET) as the structure of the job market is changing. Therefore, the courses should be designed in a manner that they are demand-driven, especially for emerging occupations in the area of information and communications technology (ICT), services, green occupations, etc. Through this paper it was also found that the financing of vocational institutes which occurs in an unstructured manner presently, should be performance-based to motivate the drive for innovation and excellence in the respective institutions.[34]
- Dr. Dakore and Pradip Shivaji Anantwar conducted the study on "Contribution of Skill Development in India" and explored that the skills and knowledge are the driving forces of the economic growth and social development of any country. Researchers also identified that having skill is even more important to increase the pace of a country. Through this paper researchers explained that countries with higher and better levels of skill adjust more effectively to the challenges and opportunities of globalization and technological changes.[35]

International Studies

- Philipp Eigenmann, Philipp Gonon and Markus Weil (2021) in their study "Opening and Extending Vocational Education" explained how vocational education development partially follows the structures of higher education and how higher education tends to take on vocational education models. Researchers also suggested that informal learning and recognition of competences widen the perspectives on vocational education. They revealed that regardless of national pathways a new shape of vocational education and educational provision with a specific focus on vocations, workplace and learning is emerging.[36]
- Deborah L. Virant-Young, Julianne Purcell, Snadi Moutsios and William F. Lobst (2021) conducted the study on "Practice Makes Better: Effective Faculty Educator Skill Development in the Virtual Space" and suggested that the pandemic is driving a paradigm shift in graduate medical evaluation (GME) for

both future education programming and required staffing needs and that these changes will likely persist even when restrictions to in-person learning are lifted. This paper also suggested that it is important to evaluate the efficacy of newly transitioned programming and the impact of these changes on learner engagement and perceptions of outcomes.[37]

- Rebecca Collins-Nelsen, Frank Koziarz, Beth Levinson, Erin Allard, Stephanie Verkoeyen and Sandeep Raha (2021) in their work "Social Context and Transferable Skill Development in Experiential Learning" found that there is a significant increase in participants' self-assessments of leadership, problem solving, knowledge translation and knowledge mobilization. This research concluded that co-curricular programs play an important role in transferable skill development.[38]
- Aam Hamdani, Aim Abdulkarim, Diah Cahyani and Eki Nugraha (2021) in their work "Vocational Education in the Industrial 4.0 Era: Challenges and Opportunities" stated that vocational education is a program to support the realization of smart education through increasing and equalizing the quality of education, expanding access and the relevance of utilizing technology in realizing skill competencies in the industrial era 4.0.[39]
- Syauqi, Khusni Munadi, Sudji Triyono and Mochamad Bruri (2020) conducted research on "Students' Perceptions toward Vocational Education on Online Learning during the COVID-19 Pandemic" and evaluated that teachers in managing online learning are not in line with student expectations. They also found out that online learning does not provide better experience and productivity in mastering competencies.[40]
- Christina Jerome Shuma and Marco Basela (2020) in their study "Enhancing Employability Skills among University Students through Career Guidance and Counseling" and explored the role of career guidance and counseling in promoting graduates' employability skills in Tanzania higher learning institutions. The study revealed that higher learning institutes (HLIs) do not have professionals in career guidance and counseling who are solely employed to offer such services; the task is left to lecturers and wardens. Career guidance and counseling services were also found to be inadequate and not formalized thereby threatening students' acquisition of employability skills.[41]

- Lesley Powell and Simon McGrath (2019) in their research "Skills for Human Development Transforming Vocational Education and Training" explained that vocational education and training (VET) should be about enlarging peoples' opportunities to live a flourishing life rather than simply being about narrow employability and productivity. This study also stated that the purpose of vocational education and training (VET) at the national, institutional and individual levels should be to focus on human development and also to bring social justice.[42]
- Isaboke Peter Kennedy (2019) in his work "Technical and Vocational Education Training Institutions Way of Future for Youth Empowerment and Creation of Market- Oriented Job Opportunities in Rwanda" stated that vocational training center (VTC) offers youth empowerment programmes which are tailored toward educating and empowering youth with skills. This paper also revealed that Kwigira Vocational Training Centre (VTC) has numerous partners such as local government, local communities and local organizations across the region that offer programmes, among others youth training in life skills.[43]
- Jane Itohan Oviawe (2018) in her study "Revamping Technical Vocational Education and Training through Public-Private Partnerships for Skill Development" stated the need for Public-Private Partnerships (PPP) in Technical and Vocational Education and Training (TVET). This paper also suggested that Public-Private Partnerships (PPPs) should be encouraged and sharing of tools and equipment between Technical and Vocational Education and Training (TVET) institutions and industries aimed at ensuring that learners are abreast with developments in the world of work.[44]
- Sonja C Kassenboehmer, Felix Leung and Stefanie Schurer (2018) conducted research on "University Education and Non-Cognitive Skill Development" and observed a robust positive relationship between university education and extraversion and agreeableness for students from disadvantaged backgrounds. The effects are likely to operate through exposure to university life rather than through degree-specific curricula or university-specific teaching quality. [45]
- Simon McGrath and Lesley Powell (2016) in their study "Skills for Sustainable Development: Transforming Vocational Education and Training Beyond 2015" found that the idea of green skills for

the green economy as being inadequate for achieving a transformed and transformative vocational education and training (VET) as it shifts the target from economic growth to the wellbeing of individuals and it also enables vocational education to play a role in challenging and transforming society and work.[46]

- Juanita Cajio and Michale J.Burke (2016) in their study "How Instructional Methods Influence Skill Development in Management Education" examined the expected effects of instructional methods that promoted different levels of social interaction and reflection on self-reported learning behaviors (dialogue and reflection activities), self-efficacy for class performance and instructors' assessments of students' skill demonstration (team work, communication, influence, and work proficiency and effort). These learning behaviors in turn led to enhanced self-efficacy for class performance and skilled activity. Researchers also concluded that students' perceptions of psychological safety partially mediated relationships between instructional method and dialogical and reflective activities.[47]
- David F. Feldon, Michelle A. Maher, Melissa Hurst and Briana Timmerman (2015) in their study "Faculty Mentors', Graduate Students' and Performance-Based Assessments of Students' Research Skill Development" revealed that in most cases, students and their mentors identified divergent strengths and weaknesses. When compared against performance-based assessments of mentees' work, neither faculty mentors' nor their mentees' perceptions aligned with rubric scores at rates greater than chance in most categories.[48]
- Brett Freudenberg, Mark Brimble and Craig Cameron (2011) in their study "Work Integrated Learning and Generic Skill Development: The Development of Business Students' Generic Skills Through Work-Integrated Learning" argued that those students involved in the professional development program demonstrate significant gains in both their generic skills and associated recognition of the importance of generic skills development to their studies and professional lives compared to students who did not participate in the professional development program.[49]
- Mehmet Sahin (2010) in his work "Blended learning in vocational education: An experimental study" investigated that the blended learning has contribute to student performance in vocational education.

Researcher also analyzed that use of a blended learning model for footwear design training in a vocational education setting is a novel teaching and learning approach. The experimental results indicate that blended learning contributes to footwear design training in the context of vocational education.[50]

RESEARCH GAP

1. Literature review suggests that there are many studies on skill development but there are only a few studies on vocational courses offered by Uttar Pradesh universities.
2. Very few studies measured the magnitude of skill development in students through vocational courses.
3. Only few studies addressed the employability of students through vocational courses.

NEED OF THE STUDY

Skill development has been considered one of the critical aspects for job creation in India. India has a unique advantage of having demographic dividend with more than 62% of its population. But in order to get economic benefit from such a large workforce, employability has to be improved.[51]As per the current statistics, only 10% of the fresh graduates are employable and the rest 90% lack the skills required for employment.[52]

India's Gross Domestic Product (GDP) is growing at a great rate of approx. 6-8% but job creation is not catching up with it.[53]According to a survey, only 25% of the Indian workforce has undergone a skill development program and India needs a higher number of skilled workforces. According to the World Trade Organization (WTO), the GDP level can increase by 3%-5% in 2035, if India focuses on skill development and training. There is a great need for India to train and skill the youth for the overall development of the country.[54] Central and state governments should come together for Uttar Pradesh skill development and industrial up-gradation. This initiative will address the issue of migration of youth from Uttar Pradesh for better job prospects and at the same time boost the industrial development in the State. The Ministry of Skill Development and Entrepreneurship (MSDE) has been working closely with the private sector in Uttar Pradesh to promote skill development in the state through its implementation arm - the National Skill Development Corporation.[55]

The scale and impact of COVID-19 are unprecedented. The current pandemic has enhanced the use of local

products and has helped people to recognize the importance of a skill-driven society.[56] This study will help in identifying whether these skill development programs are effective for students to be employed. This research will contribute not only in the higher education sector but also for the society and the economy of India. It will be beneficial for the overall development of the nation.

OBJECTIVES OF THE STUDY

The proposed study intends to have the following objectives:

1. To study the factors affecting the concurrent vocational courses of the selected universities.
2. To analyze the impact of concurrent vocational courses on the skill development of students enrolled in the selected universities.
3. To evaluate the relationship between skill development and employability of the students.
4. To suggest an appropriate skill development action plan for the selected universities.

CONCEPTUAL FRAMEWORK

In conceptual framework, the researcher intends to study the factors affecting various streams of vocational courses and to analyze their impact on skill development with reference to soft skills and hard skills. Further, the researcher will evaluate the relationship between skill development and employability. On the basis of literature review, the following conceptual framework of proposed research has been prepared by the researcher:

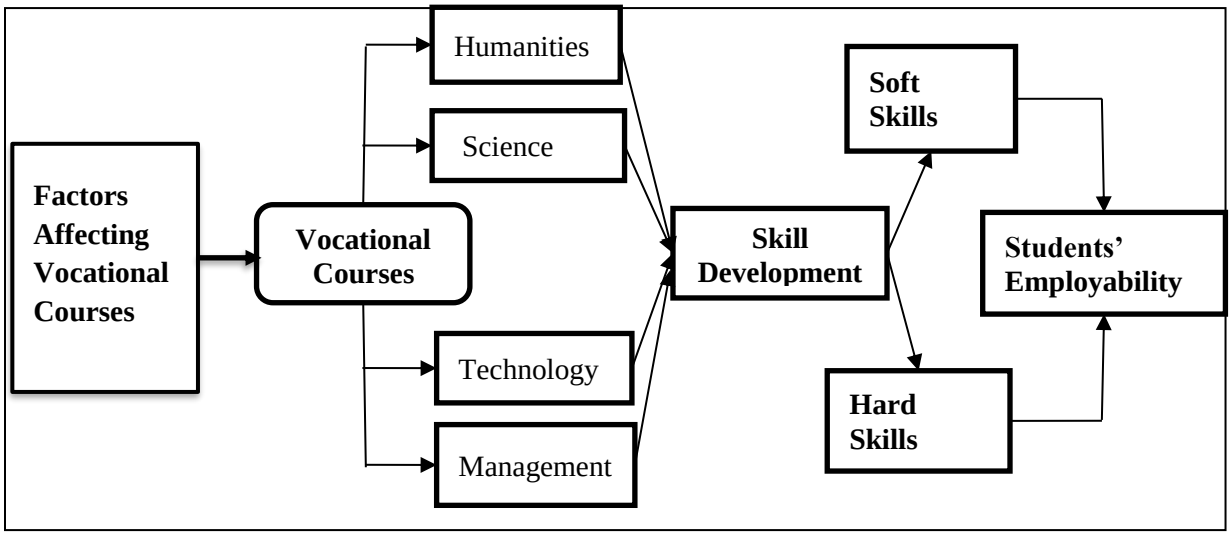

Fig. 1 Conceptual Framework

HYPOTHESES:

The researcher would like to test the validity of the following null hypotheses with reference to above stated objectives:

H_{01}: There is no significant difference between the factors affecting concurrent vocational courses of selected universities.

H_{a1}: There is a significant difference between the factors affecting concurrent vocational courses of selected universities.

H_{02}: There is no significant impact of concurrent vocational course on skill development of students in the selected universities.

H_{a2}: There is a significant impact of concurrent vocational course on skill development of students in the selected universities.

H_{03}: Skill development and employability are independent to each other.

H_{a3}: Skill development and employability are dependent to each other.

RESEARCH METHODOLOGY:

This research aims at studying and assessing the various skill development practices through vocational courses in the selected universities and suggesting pragmatic measures for skill development to enhance overall performance. The research will be descriptive and analytical in nature.

SCOPE OF THE STUDY

The Uttar Pradesh Government was the first state government to announce a policy on skill development in July 2013. It visualized the importance of vocational education as well as skill development long ago and decided to transform the existing skill ecosystem to enable the youth to choose and acquire skills of their choice and to provide skilled manpower as per industry requirement. Uttar Pradesh was the first state to formulate "common norms" for all schemes by filling gaps existing in different schemes through creating a State Skill Development Fund which was a visionary idea.[57]The researcher has chosen top four universities which offer vocational courses namely- Banaras Hindu University, Aligarh Muslim University, Amity

University, Dayalbagh Educational Institute of Uttar Pradesh.

SAMPLE SIZE

The population from which sample is to be drawn is finite in nature. For calculation of sample size of finite population, the following sample size formula for finite population will be used to arrive at a representative number of respondents (Bill Godden, 2004):

$$SS = \frac{Z^2 \times p(1-p)}{M^2}$$

n= $\{1.96^2 \times 0.5(1\text{-}0.5)\} \div 0.05^2$

n= $(3.8416 \times 0.25) \div 0.0025$

n= $(0.9604) \div 0.0025$

n=384

As sample size is finite population which is 5496 (where the population is less than 50000)

New SS =SS/ 1 + [(SS − 1)/Pop]

Pop = Population (5496)

NEW SS = 384 / [1+ [(384 -1)/5496]}

= 384/1.069

= 358.98 (Approx. 359)

Where:

SS= Sample Size for infinite population (more than 50,000)

Z =Z value (e.g., 1.96 for 95% confidence level)

P = population proportion (expressed as decimal) (assumed to be 0.5 (50%) since this would provide the maximum sample size).

M =Margin of Error at 5% (0.05)

SAMPLE COMPOSITION

Sample composition of the study has been ascertained on the basis of proportionate method. The researcher identified the number of students of vocational courses of each university and divided 384 (as per Godden's

formula) by sum of all the vocational students among these universities. Sample composition of the study consists of total 359 respondents from four related universities. After applying proportionate method, the number of respondents are as per the following table:

Table 2 Sample Composition

S.No.	Name of University	No. of Students in Vocational courses	No. of Respondents
1	Banaras Hindu University, Varanasi	1116	73
2	Aligarh Muslim University, Aligarh	450	30
3	Amity University, Noida	480	31
4	Dayalbagh Educational Institute, Agra	3450	225
	Total	5496	359

SAMPLING TECHNIQUE

Stratified Random Sampling: In this study, stratified random sampling will be used for which the researcher will develop strata of the students in each selected university and will draw the samples randomly from the population of the study.

SOURCES OF DATA COLLECTION

The data collection for the proposed research will be based on both primary and secondary data. **Primary Data-** The tool for the purpose of primary data collection will be questionnaires. Structured questionnaire will be administered in order to collect data from the respondents.

Secondary Data- Data will be collected through various publications, websites, libraries, newspapers and magazines. Existing researches related to the fields of psychological constructs and human capital will be used to design the questionnaire for primary data collection.

STATISTICAL TOOLS FOR ANALYSIS OF DATA

For data analysis and hypotheses testing the researcher will use Factor Analysis, Regression, Chi-square and other suitable tests as per the research requirements.

Table 3 Statistical Tools for Analysis of Data

S. No.	Objectives	Hypotheses	Statistical tool

1.	To study the factors affecting concurrent vocational courses of selected universities.	There is no significant difference between factors affecting concurrent vocational courses of selected universities.	Factor Analysis
2.	To analyze the impact of concurrent vocational courses on the skill development of students enrolled in the selected universities.	There is no significant impact of concurrent vocational course on skill development of students enrolled in the selected universities.	Regression
3.	To evaluate the relationship between skill development and employability of the students.	Skill development and student employability are independent to each other.	Chi-square
4.	To suggest an appropriate skill development action plan for selected universities.	Not applicable	Based on primary and secondary data analysis

RELIABILITY AND VALIDITY

The test of reliability used by the researcher will be Cronbach's coefficient alpha (Cronbach's alpha) which will test the consistency of the respondents' answers for all the items in the measurement.

PROPOSED OUTLINE OF THE STUDY

Chapter 1: Introduction

Chapter 2: Review of Literature

Chapter 3: Conceptual Framework and Research Methodology

Chapter 4: Data Collection and Analysis of Results

Chapter 5: Conclusions and Suggestions

Appendix 1 – References

2 – Questionnaire

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